

ASSESSORS' HANDBOOK
SECTION 581

EQUIPMENT INDEX AND PERCENT GOOD
FACTORS

JANUARY 1998

(USE FOR LIEN DATE JANUARY 1, 1998)

CALIFORNIA STATE BOARD OF EQUALIZATION

JOHAN KLEHS, HAYWARD

DEAN F. ANDAL, STOCKTON

ERNEST J. DRONENBURG, JR., SAN DIEGO

KATHLEEN CONNELL, SACRAMENTO

JOHN CHIANG, ACTING MEMBER, LOS ANGELES

FIRST DISTRICT

SECOND DISTRICT

THIRD DISTRICT

STATE CONTROLLER

FOURTH DISTRICT

E. L. SORENSEN, JR., EXECUTIVE DIRECTOR



FOREWORD

This handbook section contains several tables of equipment index and percent good factors. The index and percent good factors are both used in the process of adjusting the acquisition cost of personal property and fixtures to determine the replacement cost new less normal depreciation.

The index factors (Tables 1, 2, and 3) may be used to estimate current replacement costs. The Commercial Equipment Index Factors (Table 1) were compiled based on equipment price level change data published by the Marshall and Swift Publication Co., *Marshall Valuation Service*. The tables entitled Industrial Machinery and Equipment Index Factors (Table 2) and Agricultural and Construction Equipment Index Factors (Table 3) were derived by the Policy, Planning, and Standards Division using the Bureau of Labor Statistics' *Producer Price Indexes* as a basis.

The percent good factors (Tables 4 and 5) may be used to estimate replacement or historical cost new less normal depreciation. Table 4, Machinery and Equipment Percent Good Factors, lists percent good factors for machinery and equipment. The rate of return used to compute these factors is calculated annually and is shown on the table. These factors are derived from a system developed by the Iowa State University Engineering Research Center. An explanation of the methods of calculation is contained in a separate manual, Assessors' Handbook Section 582, *Explanation of the Derivation of Equipment Percent Good Factors*, which was adopted in December 1980.

For agricultural and construction mobile equipment, we suggest using the comparative sales approach if possible. Several valuation guides are available for this purpose (see Chapter 7 for known publications). If the valuation guides are not used, then the cost approach can be employed. The appropriate index from Table 3 should be applied to equipment cost along with a percent good factor from Table 5. The factors found in Table 5 are derived from a detailed analysis of used equipment sales data.

Chapter 6 of this handbook section identifies certain improvements and lists the most common sub-categorization of those improvements as either "structures" or "fixtures."

Richard C. Johnson, Deputy Director
Property Taxes Department
California State Board of Equalization
January 1998

TABLE OF CONTENTS

CHAPTER 1: USE OF EQUIPMENT INDEX FACTORS	1
COMMERCIAL EQUIPMENT INDEX FACTORS	1
INDUSTRIAL EQUIPMENT INDEX FACTORS	2
MAXIMUM RECOMMENDED EQUIPMENT INDEX FACTOR.....	3
CHAPTER 2: USE OF EQUIPMENT PERCENT GOOD FACTORS	5
MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS	5
AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS	6
CHAPTER 3: EQUIPMENT INDEX FACTORS AND PERCENT GOOD FACTORS TABLES	10
TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS	11
TABLE 2: INDUSTRIAL MACHINERY AND EQUIPMENT INDEX FACTORS	12
TABLE 3: AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS	13
TABLE 4: MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS.....	14
TABLE 5: AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS.....	15
CHAPTER 4: INDUSTRY CLASSES BY INDEX FACTOR GROUPS	16
CHAPTER 5: EXPLANATION OF INDUSTRY CLASSES.....	17
CHAPTER 6: CLASSIFICATION OF IMPROVEMENTS AS STRUCTURE OR FIXTURE	21
CHAPTER 7: VALUATION GUIDES	27

CHAPTER 1: USE OF EQUIPMENT INDEX FACTORS

The factors shown in the index factors tables may be used to estimate current replacement costs for various groups of equipment. When the acquisition cost is multiplied by the factor for the year of acquisition, the product approximates the current replacement cost new in most instances. The index factors tables can be found in Chapter 3 of this section of the handbook: Table 1, Commercial Equipment Index Factors, Table 2, Industrial Machinery and Equipment Index Factors, and Table 3, Agricultural and Construction Equipment Index Factors.

COMMERCIAL EQUIPMENT INDEX FACTORS

The following example demonstrates how to use the index factors to estimate replacement cost new.

Example 1-1: Estimating Replacement Cost New Using Commercial Equipment Index Factors

A taxpayer acquired office equipment for \$1,000 in 1991. What is the estimated replacement cost new of this office equipment as of the January 1, 1998 lien date?

The appropriate factor is found under the Office column for 1991.

TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS

Year	Bank	Garage	Hospital	Hotel	Laundry & Dry Cleaning	Library	Office
1997	100	100	100	100	100	100	100
1996	102	102	102	102	102	102	102
1995	103	103	104	104	103	103	103
1994	106	107	108	107	107	107	106
1993	109	109	111	111	110	111	109
1992	112	112	113	113	112	113	111
1991	114	113	114	116	113	114	112

The factor is shown in the table as a percentage and must be converted to a decimal. The factor is applied to the acquisition cost to compute the replacement cost new.

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New
Office	1991	\$1,000	1.12	\$1,120

In other words, it would require an expenditure of approximately \$1,120 on the 1998 lien date to replace office equipment purchased in 1991 for \$1,000.

INDUSTRIAL EQUIPMENT INDEX FACTORS

Six group indexes are supplied in Chapter 3, Table 2, Industrial Machinery and Equipment Index Factors. Chapter 4 of this handbook contains a listing of industry classes covered by each group index. A detailed description of each industry class follows in Chapter 5. Most groups cover more than one industry class because the cost index factors for these industries are numerically similar.

The following example demonstrates the use of the group factor.

Example 1-2: Estimating Replacement Cost New Using Industrial Equipment Index Factors

On the 1998 lien date, what is the replacement cost new for rubber tire manufacturing equipment acquired for \$100,000 in 1990?

The appropriate index factor is found in Group 4 across from the year of acquisition, 1990. Group 4 is used because the listing of industry classes by group includes rubber products in Group 4 (see Chapter 4).

TABLE 2: INDUSTRIAL MACHINERY AND EQUIPMENT INDEX FACTORS

YEAR	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
1997	100	100	100	100	100	100
1996	101	100	101	101	101	101
1995	102	102	103	103	104	103
↑↓						
1990	113	110	114	114	117	116
↑↓						

The appropriate index factor of 114 percent is converted to a decimal (1.14) and multiplied by the acquisition cost as follows:

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New
Group 4	1990	\$100,000	1.14	\$114,000

In other words, it would require an expenditure of approximately \$114,000 on the 1998 lien date to replace rubber tire manufacturing equipment acquired in 1990 for \$100,000.

MAXIMUM RECOMMENDED EQUIPMENT INDEX FACTOR

Because rapid technological changes have taken place in recent years, Board staff recommends that appraisers use a maximum equipment index factor when valuing equipment. The recommended maximum factor is the factor for an age equal to 125 percent of the estimated average service life. The following example demonstrates the use of the 125 percent maximum.


Example 1-3: Estimating the Maximum Recommended Equipment Index Factor


A taxpayer acquired warehouse equipment for \$15,000 in 1980. What is the maximum recommended equipment index factor if this equipment has a 12 year average service life?

- Average service life of 12 years multiplied by the recommended 125 percent maximum equals 15 years ($12 \times 1.25 = 15$), recommended maximum.
- Since the recommended maximum is 15 years, the appropriate index factor is the index factor corresponding to an item acquired in 1983 ($1998 - 15$). The index factor is 134 percent.
- Actual age of equipment on 1998 lien date is 18 years ($1998 - 1980 = 18$). Without using the recommended maximum the index factor is 157 percent.

TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS

Year	Library	Office	Rest- aurant	Retail	Theater	Ware- house	Service
1997	100	100	100	100	100	100	100
1996	102	102	102	102	102	102	102
1995	103	103	104	104	103	103	103





1983	141	136	147	142	141	134	141
1982	144	139	150	146	144	136	144
1981	150	144	158	152	151	142	150
1980	164	157	174	165	165	157	165

The index factors with and without adjustments for the recommended maximum are indicated above for comparison purposes.

Example 1-3 -- continued

	Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New
Maximum	Ware-house	1983 ¹	\$15,000	1.34	\$20,100
Actual	Ware-house	1980	\$15,000	1.57	\$23,550

The above table indicates the replacement cost new of the property using the maximum recommended index factor and the index factor using the actual age. Using the maximum recommended index factor, it would require an expenditure of approximately \$20,100 to replace warehouse equipment purchased in 1980 for \$15,000. If the maximum index factor is not applied and the index factor associated with the actual age of the property is used, it would require an expenditure of approximately \$23,550 to replace the warehouse equipment purchased in 1980 for \$15,000. The example indicates the difference when the recommended maximum is not used.

Use of the 125 percent limit is a recommendation. It is not intended to replace appraiser judgment. If the appraiser believes that using the 125 percent limit is inappropriate, the appraiser should provide a well-supported explanation of the reason for deviating from the recommendation.

SUMMARY

Examples 1-1, 1-2, and 1-3 illustrate the use of Tables 1 and 2. The Agricultural and Construction Equipment Index Factors, Table 3, is used in the same manner as shown in the examples. Complete examples using the Agricultural and Construction Equipment Index and Percent Good Factors are included in Chapter 2, see Examples 2-2 and 2-3.

Although this handbook section contains appropriate index factors for most types of taxable equipment found in California, better information is available from other sources in many cases. For example, this handbook section does not contain any index or percent good factors for aircraft, vessels, or computer equipment. In addition, it may be possible to find actual current replacement prices for new equipment. Actual current replacement prices are nearly always better indicators of replacement value than indexed acquisition costs.

As discussed in this chapter, the index factor is used to convert acquisition cost to replacement cost new. The percent good factor converts the replacement cost new to replacement cost new less normal depreciation. The next chapter discusses the use of the percent good factors and tables.

¹ Actual year of acquisition is 1980. The year 1983 represents the recommended maximum.

CHAPTER 2: USE OF EQUIPMENT PERCENT GOOD FACTORS

MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS

The percent good table provided in Table 4, Chapter 3, was derived using the "individual method" of computation. The rationale and the mathematics of the methods of computation are explained in Assessors' Handbook Section 582, *Explanation of the Derivation of Equipment Percent Good Factors*.

Table 4 is designed to assist the appraiser in estimating replacement or historical cost less normal depreciation of commercial and industrial equipment (see Table 5 for agricultural and construction mobile equipment). The column headings in Table 4 represent the average service life expectancy of the equipment under consideration. Each column contains the percent good factor for the corresponding age.²

Example 2-1 carries forward the calculation shown in Chapter 1, Example 1-1.

Example 2-1: Estimating Replacement Cost New Less Normal Depreciation

Continuing with the facts from Example 1-1, what is the replacement cost new less normal depreciation on the 1998 lien date for office equipment purchased in 1991 at an acquisition cost of \$1,000?

- Facts derived in Example 1-1: Index factor 1.12, replacement cost new \$1,120.
- Appraiser estimates average service life of 12 years.
- The appropriate percent good factor (52%) can be found in the 12 year life column at year 1991, in Table 4.

TABLE 4: MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS
INDIVIDUAL PROPERTIES--AVERAGE SERVICE LIFE
6.75% Rate of return

Year Acquired	AGE	5 Years	10 Years	12 Years	15 Years	AGE	Year Acquired
1997	1	81	92	94	95	1	1997
1996	2	62	83	87	90	2	1996
1995	3	45	75	80	85	3	1995
1994	4	29	66	73	80	4	1994
1993	5	17	57	66	75	5	1993
1992	6	10	49	59	69	6	1992
1991	7	5	40	52	64	7	1991

² Life expectancies are derived from the R-3 survivor curve. No minimum percent good is intended.

The percent good factor is applied to the replacement cost new to compute the replacement cost new less normal depreciation. (The factor is shown as a percentage and must be converted to a decimal in order to do the computation.)

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New	Percent Good	Replacement Cost Less Normal Depreciation
Office	1991	\$1,000	1.12	\$1,120	.52	\$582

To reiterate, applying the index factor and the percent good factor to office equipment purchased in 1991 for \$1,000 results in an estimated value of \$582 on lien date January 1, 1998. It is important to note that the percent good factor reflects only normal depreciation. Additional value adjustments may be necessary if the property has experienced above- or below-normal loss in value.

AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS

A second percent good table, Table 5, is to be used when determining the loss of value for agricultural and construction mobile equipment. Table 5 provides percent good factors for both new and used equipment. The following examples demonstrate the use of Agricultural and Construction index and percent good factors.

Example 2-2: Estimating Replacement Cost New Less Normal Depreciation for Construction Equipment Acquired New

What is the assessable value of a construction motor grader acquired new in 1991 for \$100,000?

The first step is locating the appropriate index. As indicated on the next page the index factor is 112 percent.

Example 2-2 -- continued

TABLE 3
AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS

YEAR	Agricultural	Construction
1997	100	100
1996	99	100
1995	103	104
↑		
1991	115	112

The second step is determining the appropriate percent good factor. The percent good factor indicated below for construction equipment purchased **new** in 1991 is 42 percent.

TABLE 5
AGRICULTURE AND CONSTRUCTION MOBILE EQUIPMENT
PERCENT GOOD TABLE
CONSTRUCTION MOBILE EQUIPMENT

Year Acquired	Age	New	Used	Age
1997	1	74	91	1
1996	2	66	81	2
1995	3	60	74	3
↑				
1991	7	42	52	7

The third step is to apply the factors to the acquisition cost to determine the replacement cost new less normal depreciation, or estimated value.

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New	Percent Good	Replacement Cost Less Normal Depreciation
Construction	1991	\$100,000	1.12	\$112,000	.42	\$47,040

In other words, the estimated value of construction equipment acquired **new** in 1991 at an acquisition cost of \$100,000 is \$47,040.

**Example 2 -3: Estimating Replacement Cost New Less Normal Depreciation
for Construction Equipment Acquired Used**

What is the estimated value of a construction motor grader acquired **used** in 1991 for \$100,000?

As in Example 2-2, the first step is determining the index factor. The index factor is 112 percent.

TABLE 3
AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS

YEAR	Agricultural	Construction
1997	100	100
1996	99	100
1995	103	104
1994	106	106
1993	109	108
1992	112	109
1991	115	112

The second step is determining the percent good factor for **used** construction equipment purchased in 1991 (52%).

TABLE 5
AGRICULTURE AND CONSTRUCTION MOBILE EQUIPMENT
PERCENT GOOD FACTORS
CONSTRUCTION MOBILE EQUIPMENT

Year Acquired	Age	New	Used	Age
1997	1	74	91	1
1996	2	66	81	2
1995	3	60	74	3
1994	4	55	68	4
1993	5	51	62	5
1992	6	47	58	6
1991	7	42	52	7

The third step is to apply of the factors to the acquisition cost of the **used** construction equipment.

Equipment Group	Year of Acquisition	Cost of Acquisition	Index Factor	Replacement Cost New	Percent Good	Replacement Cost Less Normal Depreciation
Construction	1991	\$100,000	1.12	\$112,000	.52	\$58,240

Example 2-3 -- continued

The replacement cost new less normal depreciation of **used** construction equipment purchased in 1991 for \$100,000 is \$58,240

For construction mobile equipment and agricultural equipment, where "New" or "Used" status cannot be determined from appraisal data at hand, application of percent good factors associated with the "New" column will provide the more conservative estimate of value. This can be seen by comparing the resulting values in Example 2-2 (value of \$47,040 for equipment purchased **new**), and Example 2-3 (value of \$58,240 for equipment purchased **used**). Both examples use construction equipment purchased in 1991 for \$100,000.

CHAPTER 3: EQUIPMENT INDEX FACTORS AND PERCENT GOOD FACTORS TABLES

(Use for Lien Date January 1, 1998)

INDEX FACTORS USED TO ESTIMATE REPLACEMENT COST NEW

Table 1: Commercial Equipment Index Factors

These factors are derived using data provided courtesy of the Marshall and Swift Publication Co., *Marshall Valuation Service*. Indexes are to be used for each appropriate class of equipment.

Table 2: Industrial Machinery and Equipment Index Factors.

These indexes are derived from data in the Bureau of Labor and Statistics' *Producer Price Indexes*.

Table 3: Agricultural and Construction Equipment Index Factors

These indexes are derived from data in the Bureau of Labor Statistics' *Producer Price Indexes*.

PERCENT GOOD FACTORS USED TO ESTIMATE REPLACEMENT COST NEW LESS NORMAL DEPRECIATION

Table 4: Machinery and Equipment Percent Good Factors

These factors are derived from a system developed by the Iowa State University Engineering Research Center. The rate of return used to compute these factors is calculated annually and is shown on the table.

Table 5: Agricultural and Construction Mobile Equipment Percent Good Factors

These factors are derived from a detailed analysis of used equipment sales data.

TABLE 1: COMMERCIAL EQUIPMENT INDEX FACTORS

1997 COST = 100

Year	Bank	Garage	Hospital	Hotel	Laundry & Dry Cleaning	Library	Office	Rest- aurant	Retail	Theater	Ware- house	Service	Year
1997	100	100	100	100	100	100	100	100	100	100	100	100	1997
1996	102	102	102	102	102	102	102	102	102	102	102	102	1996
1995	103	103	104	104	103	103	103	104	104	103	103	103	1995
1994	106	107	108	107	107	107	106	108	107	107	106	107	1994
1993	109	109	111	111	110	111	109	111	110	110	109	110	1993
1992	112	112	113	113	112	113	111	114	113	112	112	112	1992
1991	114	113	114	116	113	114	112	116	115	114	113	114	1991
1990	115	115	117	118	116	116	113	119	117	116	115	116	1990
1989	118	119	120	122	119	119	116	123	120	119	118	119	1989
1988	124	125	127	128	125	126	122	129	126	125	123	125	1988
1987	129	130	133	134	130	131	127	134	132	130	127	131	1987
1986	131	132	135	136	132	133	129	137	134	133	129	133	1986
1985	132	132	137	139	133	135	130	140	136	134	130	134	1985
1984	134	134	140	142	135	137	132	143	138	136	131	137	1984
1983	138	138	144	146	139	141	136	147	142	141	134	141	1983
1982	141	141	147	149	142	144	139	150	146	144	136	144	1982
1981	147	148	154	156	148	150	144	158	152	151	142	150	1981
1980	159	164	169	175	163	164	157	174	165	165	157	165	1980
1979	172	181	186	187	179	179	170	190	179	179	171	179	1979
1978	187	198	203	205	195	195	185	208	195	196	187	196	1978
1977	201	213	218	220	209	211	196	224	211	211	201	210	1977
1976	210	224	229	231	220	222	204	236	222	221	212	221	1976
1975	223	237	241	245	233	234	216	251	238	234	229	235	1975
1974	246	265	267	269	261	258	238	278	258	258	250	259	1974
1973	283	305	306	303	304	300	272	320	297	298	282	297	1973
1972	294	315	319	316	314	313	283	332	309	311	290	309	1972
1971	302	328	332	324	324	321	291	340	317	319	300	318	1971
1970	319	347	355	339	344	336	305	354	333	335	319	335	1970
1969	341	368	380	359	365	359	325	371	354	356	337	356	1969
1968	355	383	398	376	378	375	339	387	370	372	349	371	1968
1967	370	395	416	391	393	391	354	402	386	388	362	386	1967
1966	388	407	433	410	407	411	369	417	403	405	373	402	1966
1965	399	419	447	420	417	419	376	426	410	413	381	412	1965
1964	403	428	453	423	419	422	379	428	414	416	384	415	1964
1963	406	434	458	425	422	424	382	429	417	419	386	418	1963
1962	407	436	460	430	422	427	384	433	420	422	389	421	1962
1961	409	440	462	433	423	429	386	436	422	424	390	423	1961
1960	408	443	464	435	416	429	388	436	424	426	387	423	1960
1959	413	448	469	439	416	433	391	436	427	429	388	426	1959
1958	419	458	477	442	421	435	394	442	429	432	399	432	1958
1957	433	473	489	451	424	450	407	463	443	446	410	444	1957
1956	465	517	532	477	450	477	431	499	473	481	442	477	1956
1955	515	572	590	514	492	525	465	518	521	533	487	521	1955

TABLE 2: INDUSTRIAL MACHINERY AND EQUIPMENT INDEX FACTORS

1997 COST = 100						
YEAR	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
1997	100	100	100	100	100	100
1996	101	100	101	101	101	101
1995	102	102	103	103	104	103
1994	105	104	105	105	106	106
1993	109	105	108	107	108	108
1992	111	107	110	109	111	110
1991	112	108	111	111	114	113
1990	113	110	114	114	117	116
1989	114	114	117	118	121	121
1988	117	118	121	122	125	126
1987	125	122	127	127	131	131
1986	130	124	130	130	134	134
1985	131	126	133	133	138	137
1984	132	129	135	136	142	139
1983	136	131	139	140	147	143
1982	137	134	141	143	151	145
1981	139	139	146	148	157	150
1980	151	151	159	161	170	164
1979	165	169	177	181	193	184
1978	182	186	195	199	212	204
1977	198	202	212	218	233	226
1976	212	216	228	236	253	245
1975	222	229	242	251	271	262
1974	233	246	260	271	295	284
1973	311	307	330	340	367	360
1972	331	323	351	362	395	382
1971	338	330	359	370	404	392
1970	352	338	369	380	415	403
1969	379	361	398	409	447	432
1968	392	373	414	425	468	448
1967	401	386	429	442	489	466
1966	409	399	443	459	510	485
1965	421	412	459	475	529	507
1964	427	417	465	483	539	519
1963	430	421	469	489	548	528
1962	430	422	473	494	557	531
1961	428	424	476	498	564	539
1960	420	423	473	497	564	542
1959	424	428	478	503	570	556

TABLE 3: AGRICULTURAL AND CONSTRUCTION EQUIPMENT INDEX FACTORS

1997 COST = 100		
Year	Agricultural	Construction
1997	100	100
1996	99	100
1995	103	104
1994	106	106
1993	109	108
1992	112	109
1991	115	112
1990	121	115
1989	124	120
1988	130	126
1987	135	130
1986	134	132
1985	136	135
1984	136	137
1983	139	138
1982	143	141
1981	151	147
1980	168	162
1979	188	182
1978	207	201
1977	223	221
1976	240	239
1975	262	254
1974	286	288
1973	354	365
1972	373	387
1971	387	397
1970	394	409
1969	423	443
1968	441	463
1967	459	489
1966	474	507
1965	488	523
1964	497	537

TABLE 4: MACHINERY AND EQUIPMENT PERCENT GOOD FACTORS

INDIVIDUAL PROPERTIES--AVERAGE SERVICE LIFE

6.75% Rate of Return

Year	8.5% Rate of Return																								Year
Acq'd	AGE	3	4	5	6	7	8	9	10	11	12	13	14	15	17	18	20	22	25	30	35	40	AGE	Acq'd	
1997	1	67	76	81	85	87	89	91	92	93	94	94	95	95	96	96	97	97	98	99	99	99	1	1997	
1996	2	37	52	62	69	74	78	81	83	85	87	88	89	90	92	93	94	95	96	97	98	98	2	1996	
1995	3	16	32	45	54	61	67	71	75	77	80	82	84	85	88	89	91	92	94	95	97	98	3	1995	
1994	4	6	17	29	40	49	56	61	66	70	73	76	78	80	83	85	87	89	91	94	96	97	4	1994	
1993	5		8	17	28	37	45	51	57	62	66	69	72	75	79	81	84	86	89	92	94	96	5	1993	
1992	6		2	10	18	27	35	42	49	54	59	63	66	69	74	76	80	83	86	90	93	95	6	1992	
1991	7			5	11	18	26	34	40	46	52	56	60	64	70	72	76	80	84	89	92	94	7	1991	
1990	8				6	12	19	26	33	39	45	50	54	58	65	68	72	76	81	87	90	93	8	1990	
1989	9				2	8	13	19	26	32	38	43	48	53	60	63	69	73	78	85	89	92	9	1989	
1988	10					4	9	14	20	26	32	37	42	47	55	58	65	69	75	82	87	91	10	1988	
1987	11					1	6	10	15	21	26	31	37	42	50	54	60	66	72	80	86	89	11	1987	
1986	12						3	7	11	16	21	26	31	36	45	49	56	62	69	78	84	88	12	1986	
1985	13							4	8	12	17	22	26	31	41	45	52	59	66	76	82	87	13	1985	
1984	14							1	6	9	13	17	22	27	36	40	48	55	63	73	81	86	14	1984	
1983	15								3	7	11	14	18	23	32	36	44	51	60	71	79	84	15	1983	
1982	16									4	8	11	15	19	28	32	40	47	57	69	77	83	16	1982	
1981	17									2	5	9	12	16	24	28	36	44	54	66	75	81	17	1981	
1980	18										3	7	10	13	20	25	33	40	50	64	73	80	18	1980	
1979	19										1	4	8	11	17	21	29	36	47	61	71	78	19	1979	
1978	20											2	5	9	15	18	26	33	44	58	69	77	20	1978	
1977	21												3	7	12	15	23	30	41	56	67	75	21	1977	
1976	22												1	4	11	14	20	27	37	53	65	73	22	1976	
1975	23													2	9	11	18	24	34	50	62	72	23	1975	
1974	24													1	7	10	15	21	31	47	60	70	24	1974	
1973	25														5	7	13	19	29	45	58	68	25	1973	
1972	26															2	6	12	17	26	42	55	66	26	1972
1971	27																4	10	14	24	39	53	64	27	1971
1970	28																2	8	13	21	37	51	62	28	1970
1969	29																	6	11	19	34	48	60	29	1969
1968	30																	4	10	18	32	46	58	30	1968
1967	31																	2	7	16	29	43	56	31	1967
1966	32																	1	6	14	27	41	54	32	1966
1965	33																		5	13	25	39	52	33	1965
1964	34																		2	11	23	37	50	34	1964
1963	35																		1	9	21	35	48	35	1963
1962	36																			8	20	32	46	36	1962
1961	37																			6	18	30	43	37	1961
1960	38																			4	16	28	42	38	1960
1959	39																			2	15	27	39	39	1959

TABLE 5: AGRICULTURAL AND CONSTRUCTION MOBILE EQUIPMENT PERCENT GOOD FACTORS

Year Acquired	Age	CONSTRUCTION MOBILE EQUIPMENT		AGRICULTURAL MOBILE EQUIPMENT				Age
				EXCEPT HARVESTERS		HARVESTERS		
		New	Used	New	Used	New	Used	
1997	1	74	91	78	92	74	90	1
1996	2	66	81	70	82	64	78	2
1995	3	60	74	64	75	57	69	3
1994	4	55	68	58	68	50	60	4
1993	5	51	62	52	62	43	53	5
1992	6	47	58	47	56	38	46	6
1991	7	42	52	42	50	33	40	7
1990	8	38	47	38	45	29	35	8
1989	9	35	43	34	40	25	30	9
1988	10	31	38	30	36	21	26	10
1987	11	28	34	27	32	19	23	11
1986	12	26	32	25	30	17	21	12
1985	13	24	29	23	28	15	18	13
1984	14	22	27	22	26		16	14
1983	15	20	25	20	23		14	15
1982	16	19	23	18	21		14	16
1981	17	16	20		19			17
1980	18	13	17		17			18
1979	19	12	13					19
1978	20	11	11					20
1977	21		9					21

NO MINIMUM PERCENT GOOD INTENDED

USE OF TABLE 5

The percent good table is designed to assist the appraiser in determining total loss of value once replacement cost new (RCN) has been determined for the captioned equipment.

The table, derived from used equipment sales data, identifies a pattern of depreciation for three groups of equipment. Within each group two columns of percent good figures, "New" and "Used," are listed. The column labeled "New" should be used to measure depreciation if the subject property was acquired new; conversely, the column labeled "Used" should be applied when the equipment was purchased used.

CHAPTER 4: INDUSTRY CLASSES BY INDEX FACTOR GROUPS

Group No. 1

- Petroleum Refining

Group No. 2

- Electronic Equipment
- Mining
- Professional and Scientific Instruments

Group No. 3

- Cement Manufacturing
- Chemicals and Allied Products
- Food and Kindred Products
- Glass and Glass Products
- Petroleum Exploration and Production
- Stone and Clay Products Except Cement
- Sugar and Sugar Products
- Vegetable Oil Products

Group No. 4

- Aerospace
- Electrical Equipment Manufacturing
- Primary Metals
- Pulp and Paper
- Rubber Products

Group No. 5

- Grain and Grain Mill Products
- Leather and Leather Products
- Lumber, Wood Products, and Furniture
- Motor Vehicles and Parts
- Paper Finishing
- Plastics Products
- Printing and Publishing
- Textile Mill Products

Group No. 6

- Fabricated Metal Products
- Machinery, Except Electrical Metal Working and Transportation

CHAPTER 5: EXPLANATION OF INDUSTRY CLASSES

Group No. 1

Petroleum Refining

Includes the distillation, fractionation, and catalytic cracking of crude petroleum into gasoline and its other components.

Group No. 2

Electronic Equipment

Includes the manufacture of electronic communications, detection, guidance, control, radiation, computation, test, and navigation equipment, and components thereof. Excludes manufacturers which, in addition to electronic equipment, also produce other equipment included under electrical equipment.

Mining

Includes the mining and quarrying of metallic and nonmetallic minerals and the milling, benefaction, and other primary preparation of such materials.

Professional and Scientific Instruments

Includes the manufacture of mechanical measuring, engineering, laboratory, and scientific research instruments; optical instruments and lenses; surgical, medical, and dental instruments and equipment; ophthalmic equipment; photographic equipment; and watches and clocks.

Group No. 3

Cement Manufacturing

Includes the manufacture of cement. Excludes the manufacture of concrete and concrete products.

Chemicals and Allied Products

Includes the manufacture of basic chemicals such as acids, alkalis, salts, organic and inorganic chemicals; chemical products to be used in further manufacture, such as synthetic fibers and plastics materials; and finished chemical products, such as pharmaceuticals, cosmetics, soaps, fertilizers, paints, varnishes, explosives, and compressed and liquefied gases.

Food and Kindred Products

Includes the manufacture of foods and beverages, such as meat and dairy products; baked goods; canned, frozen, and preserved products; confectionery and related products; and soft drinks and alcoholic beverages. Excludes the manufacture of grain and grain mill products, sugar and sugar products, and vegetable oils and vegetable oil products.

Glass and Glass Products

Includes the manufacture of flat, blown, or pressed glass products, such as plate, safety, and window glass, glass containers, glassware, and fiberglass. Excludes the manufacture of lenses.

Petroleum Exploration and Production

Includes the exploration, drilling, maintenance, and production activities of petroleum and natural gas producers. Includes gathering pipelines and related storage facilities of such producers. Excludes gathering pipelines and related storage facilities of pipeline companies.

Stone and Clay Products, Except Cement

Includes the manufacture of structural clay products, such as brick, tile, and pipe; pottery and related products, such as vitreous-china, plumbing fixtures, earthenware, and ceramic insulating material; concrete; asphalt building materials; concrete, gypsum, and plaster products; cut and finished stone; and abrasive, asbestos, and miscellaneous nonmetallic mineral products.

Sugar and Sugar Products

Includes the manufacture of raw sugar, syrup, or finished sugar from sugar cane or sugar beets.

Vegetable Oil Products

Includes the manufacture of vegetable oils and vegetable oil products.

Group No. 4

Aerospace

Includes the manufacture of aircraft, spacecraft, rockets, missiles, and component parts.

Electrical Equipment Manufacturing

Includes the manufacture of electric household appliances, electronic equipment, batteries, ignition systems, and machinery used in the generation and utilization of electrical energy.

Pulp and Paper

Includes the manufacture of pulp from wood, rags, and other fibers and the manufacture of paper and paperboard from pulp. Excludes paper finishing.

Primary Metals

Includes the smelting, reducing, refining, and alloying of ferrous and nonferrous metals from ore, pig, or scrap, and the manufacture of castings, forgings, and other basic ferrous and nonferrous metals products.

Rubber Products

Includes the manufacture of finished rubber products, and the recapping, retreading, and rebuilding of tires.

Group No. 5

Grain and Grain Mill Products

Includes the manufacture of blended and prepared flours, cereals, feeds, and other grain and grain mill products.

Leather and Leather Products

Includes the manufacture of finished leather products, the tanning, currying, and finishing of hides and skins, and the processing of fur pelts.

Lumber, Wood Products, and Furniture

Includes the manufacture of lumber, plywood, veneers, furniture, flooring, and other wood products. Excludes the manufacture of pulp and paper.

Motor Vehicles and Parts

Includes the manufacture of automobiles, trucks, buses, and their component parts. Excludes the manufacture of glass, tires, and stampings.

Cont. Group No. 5

Paper Finishing

Includes paper finishing and conversion into cartons, bags, envelopes, and similar products.

Plastics Products

Includes the manufacture of processed, fabricated, and finished plastics products. Excludes the manufacture of basic plastics materials.

Printing and Publishing

Includes printing, publishing, lithographing, and printing services, such as bookbinding, typesetting, photoengraving, and electrotyping.

Textile Mill Products

Includes the manufacture of spun, woven, or processed yarns and fabrics from natural or synthetic fibers. Excludes finishing and dyeing.

Group No. 6

Fabricated Metal Products

Includes the manufacture of fabricated metal products, such as cans, tinware, hardware, metal structural products, stampings, and a variety of metal and wire products.

Machinery, Except Electrical, Metal Working, and Transportation

Includes the manufacture of machinery, such as engines and turbines, farm machinery, construction and mining machinery, food products machinery, textile machinery, woodworking machinery, paper industry machinery, compressors, pumps, ball and roller bearings, blowers, industrial patterns, process furnaces and ovens, office machines, and service industry machines and equipment.

CHAPTER 6: CLASSIFICATION OF IMPROVEMENTS AS STRUCTURE OR FIXTURE

The intent of the following listing is to determine the classification of property without regard to ownership. The listing does not necessarily indicate appraisal responsibility by a real property appraiser or an auditor appraiser. It should be used as a guide in completing Schedule B of the Business Property Statement.

California Code of Regulations, Property Tax Rule 122.5 provides a definition of "Fixtures" and is controlling. For ease of use the general concepts used as a basis for the segregation of improvements to "structure" or "fixture" categories are as follows.

Primary Test:

Rule 122.5(d) states that "Intent is the primary test of classification." To determine intent the appraiser should look to what is "reasonably manifested by outward appearance."

Structure:

An improvement will be classified as "structure" when its primary use or purpose is for housing or accommodation of personnel, personalty, or fixtures; or when the improvement has no direct application to the process or function of the trade, industry, or profession.

Fixture:

An improvement will be classified as "fixture" if its use or purpose directly applies to or augments the process or function of a trade, industry, or profession.

Dual Purpose:

Items which have a dual purpose will be classified according to their primary purpose.

Examples:

The following pages list a variety of improvements and their typical classifications as structures or fixtures. It must be emphasized that the listing is illustrative as a guide only. Proper classification as a fixture or structure is determined according to the actual use or purpose of the property.

STRUCTURE ITEMS

Air conditioning—office and building cooling

Auxiliary power generation equipment—for building purposes

Awnings

Batch plants—buildings, fences, paving, yard lights, and spur tracks

Blinds

Boilers—office and building heating

Building renovations

Butane and propane installations—used for heating buildings

Car washes—all buildings, canopies, interior and exterior walls, fences, paving, and normal plumbing

Carpets and floor coverings affixed to floor—wall-to-wall carpeting and specially installed strip or area carpeting, tile, terrazzo coverings

Central heating and cooling plants

Chutes—built-in

Coin-operated laundries—restroom, sanitary plumbing fixtures

Conveyors—for moving people

FIXTURE ITEMS

Air conditioning—process cooling

Air lines

Auxiliary power generation equipment—for trade or production purposes

Back bars

Batch plant—scales, silos, hoppers, bins, machinery

Boilers—for manufacturing process

Bowling lanes

Burglar alarm systems

Butane and propane installations—used for trade or production purposes

Car washes—special plumbing, wiring, and car washing equipment

Compressors—air

Conveyors—for moving materials and products

Cooling towers—used in a trade or production process

Counters

STRUCTURE ITEMS

Cooling towers—other than used in a trade or production process

Crane ways

Dock elevators

Drapes

Elevators—including machinery and power wiring

Environmental control devices—if an integral part of the structure

Escalators

External window coverings

Fans and ducts—which are part of an air circulation or exhaust system for the building

Fences—outside of building

Flagpoles

Heating—boilers—used in office or building heating

Inter-communication and telephone systems—if integral part of the building

Kiosk—permanently attached

FIXTURE ITEMS

Cranes—traveling

Environmental control devices—used in the production process

Fans and ducts—used for processing

Fences and railings—inside of buildings

Furnaces—process

Furnishings—built-in, i.e., wall-hung desks

Heating—boilers—for the manufacturing process

Hoists

Incinerators—commercial and industrial

Ice dispensers—coin operated

Kilns—beehive, tunnel, or cylinder type, and equipment

Kilns—lumber

Laundromat—plumbing, wiring, and concrete work for equipment

Lighting fixtures—lighting associated with a commercial or industrial process

Machinery foundations and pits—not part of normal flooring or foundation

STRUCTURE ITEMS

Movie sets—which are a complete building

Paint spray rooms—if an integral part of the building

Parking lot gates

Partitions—floor to ceiling

Pipelines and pipe supports—used to convey air, water, steam, oil, or gas to operate the facilities in a building

Pits—not used in the trade or process

Pneumatic tube systems

Radiators—steam

Railroad spurs

Refrigeration systems—that are an integral part of the building

Refrigerators—walk in—which are an integral part of the building—excluding operating equipment

Restaurants—rough plumbing to fixtures

Renovations to building structures

FIXTURE ITEMS

Miniature golf courses

Movie sets—which are not a complete building

Ovens

Paint spray booths

Partitions—annexed—less than floor to ceiling

Pipelines and pipe supports—used to convey air, water, steam, oil, or gas to equipment used in the production process

Pits—used as wine and sugar clarifiers, skimming pits, grease pits, sump pits, and pits used to house machinery in the manufacturing

Plumbing—special purpose

Power wiring, switch gear, and power panels—for manufacturing process

Refrigeration systems—that are not an integral part of the building

Refrigerators—walk in—unitized—including operating equipment

Restaurant equipment—plumbing fixtures, stainless steel or galvanized sinks in kitchens, bars, soda fountains, garbage disposals, dishwashers, hoods, etc.

Roller skating surface

Scales—including platform and pit

STRUCTURE ITEMS

Security—Banks and Financial

- Fire alarm systems
- Safes-embedded
- Night depository
- Teller cages
- Vault alarm system
- Vaults

Service stations—canopies, paving, sign, pylons

Shelving—originally designed as integral part of the building

Shielded or clean rooms—if an integral part of the building

Signs—include supporting structure which forms an integral part of the building, including sign blades, pylons, or marquee structures serving as canopies. Exclude sign cabinet (face) and lettering

Silos or tanks—whose primary function or intent is to store property for a time period, such as storage tank farms and grain and liquid petroleum storage facilities

Smog control devices—when attached to incinerator or building heating plant

Sprinkler systems—where primary function is the protection of a building or structure

Store fronts

Television and radio antenna towers

Trout ponds—concrete

FIXTURE ITEMS

Security—Banks and Financial

- Cameras (surveillance)—attached to walls or columns
- Drive-up and walk-up windows—unitized security type
- Man traps
- Vault doors

Service Stations—gasoline storage tanks, pumps, air and water wells

Shelving—other than that which is an integral part of the building

Shielded or clean rooms—if not an integral part of the building

Signs—sign cabinets and free standing signs, including supports

Silos or tanks—whose primary function is as part of a process, including temporary process holding such as breweries or refineries

Ski lifts, tows, trams

Sky slides

Smog control devices—attached to process device

STRUCTURE ITEMS

Theaters—drive-in—buildings, screen and structures, fencing, paving, lighting

Water systems at golf courses

FIXTURE ITEMS

Theaters—auditorium equipment—seating, screens, stage equipment, sound, lighting, and projection

Theaters—drive in—heater and speaker uprights, wiring and units, projection equipment, signs

Trash compactors and paper shredders

Wash basins—special purpose water softeners for commercial or industrial purposes

CHAPTER 7: VALUATION GUIDES

There are numerous valuation guides available that contain sale-derived market values of agricultural and construction mobile equipment. The appraiser should utilize these valuation guides in making the appraisal estimate when sufficient information regarding the equipment's make, model, etc., is available. The percent good factors from Table 5 should be used when sufficient information cannot be obtained from value guides or other market information.

Valuation guides that we are aware of include the following:

Agricultural Equipment

National Farm Tractor and Implement Blue Book

Address: Maclaen Hunter Reports Inc.
29 N. Wacker Dr
Chicago, Illinois 60606-3297
Phone (312) 726-2802

Official Guide - Tractors and Farm Equipment

Address: Far West Equipment Dealers Association
110 Vaughn Road
Dixon, California 95620
Phone (916) 678-8859

Construction Equipment

Green Guide for Construction Equipment

Address: K-111 Directory Corp.
1735 Technology Drive
San Jose, California 95110